Five-Year Action Plan
Commonwealth of Kentucky

Broadband Equity, Access, and Deployment Program (BEAD)

August 2023

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OFFICE OF
BROADBAND DEVELOPMENT

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Internet For All

1   Executive Summary

Better Internet is part of Governor Andy Beshear's comprehensive Better Kentucky Plan to help the Commonwealth lead in the post-COVID economy. "Access to reliable, high-speed internet is not only essential to our future economic growth; it is critical infrastructure as vital to our connectivity as roads and bridges," Governor Beshear said. "Such access is necessary for our citizens to stay informed, safe and connected, and these funds will help greatly extend our information superhighway, particularly in areas of the state previously deemed unprofitable to serve." Broadband infrastructure deployment and adoption are major contributors to economic growth, increased educational attainment and opportunity, expanded access to healthcare, and increased civic engagement and participation in modern society.

Through a combination of budget recommendations by Governor Beshear, and subsequent appropriation actions by the 2021 and 2022 regular sessions of the General Assembly, $300 million in federal funds from the American Rescue Plan Act (ARPA) were made available to the Broadband Deployment Fund, which was established in statute in 2020. This includes $117.2 million from the Coronavirus State Fiscal Recovery Fund and $182.8 million from the Coronavirus Capital Projects Fund. An additional $20 million from the Coronavirus State Fiscal Recovery Fund was designated to the Rural Infrastructure Improvement Program to provide grants for utility pole replacement activities supporting broadband expansion to unserved locations. Combined with matching funds provided by local governments and internet service providers, over $500 million will be invested to support the expansion of high-speed internet in Kentucky, creating more than 10,000 direct and indirect jobs. To meet the most immediate need of those currently unserved populations across the state, the Kentucky Broadband Deployment Fund prioritized projects that include areas without current access to high-speed internet or those providing 10 Mbps or lower download speeds. The Office of Broadband Development was established in April 2022. The office administers the Broadband Deployment Fund, provides strategic direction and planning for high-speed internet accessibility, service, and growth and serves as the liaison to federal agencies and programs regarding broadband issues. With these developments, the Commonwealth has made broadband expansion a priority.

Recent Federal Communications Commission (FCC) data shows that Kentucky ranks 8th in the nation for percentage of locations with access to download speeds at or above 1 gigabit, but 14th in the nation for percentage of unserved locations, showing that access to high-speed internet is uneven across the Commonwealth. Access to reliable, affordable, high-speed internet is a priority for Kentucky.

The federal Bipartisan Infrastructure Investment and Jobs Act (IIJA) of 2021 included historic investment in the nation's broadband infrastructure through multiple programs. The most significant of these investments is the National Telecommunications and Information Administration's (NTIA) $42.45 billion Broadband Equity, Access, and Deployment (BEAD) program with an allocation of $1,086,172,536.68 to Kentucky to support broadband deployment of broadband networks. BEAD's goal is for all Americans have access to affordable, reliable high-speed internet. Each state and territory have undertaken a similar planning process as a requirement of this program. Another requirement of BEAD is the development of a State Digital Equity Plan. The Education & Labor Cabinet is leading the efforts in digital equity and working in partnership with the Office of Broadband Development to encourage broadband adoption.

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2   Overview of the Five-Year Action Plan

2.1   Vision

The vision of this Five-Year Action Plan is to provide universal access to affordable, reliable high-speed internet to all families and businesses in Kentucky. Access to high-speed internet is essential for economic growth, education, health care, public safety, and personal opportunities. The goal is to bridge the digital divide and ensure that each citizen can participate in the modern economy and society. Working with public and private partners, Kentucky will build robust, resilient, and reliable broadband networks that serve all communities.

In addition to expanding access to high-speed internet, the Commonwealth will encourage broadband adoption to ensure that in Kentucky, all individuals, businesses, and communities have full and equitable digital access to pursue economic and personal opportunities.

2.2   Goals and Objectives

Governor Beshear's Better Kentucky Plan aims to build a stronger economy through strategic investments in the commonwealth's infrastructure. The challenges faced during the COVID-19 pandemic shed light on needs and gaps across Kentucky, including areas where access to high-speed internet is lacking. The Better Kentucky Plan includes as a key component Better Internet, with the goal of connecting every family, community, and business to affordable, reliable high-speed internet.

In support of this goal, the Office of Broadband Development proposes the following objectives, identified, and validated during the local coordination process as well as concurrent research and outreach to stakeholders and interested parties:

Category	Objective
Deployment	With ISPs and local governments, identify unserved and underserved locations and community anchor institutions (CAIs) in need of broadband infrastructure
Deployment	Eliminate unserved locations (speeds of less than 25/3), prioritizing areas of "no service" (under 10/1), low density areas, and high-cost locations, deploying networks capable of least 100/20 with scalability to 100/100
Deployment	Eliminate underserved areas (speeds less than 100/20), deploying networks capable of least 100/20 with scalability to 100/100
Deployment	Identify and leverage other potential funding sources to maximize federal investments

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Deployment	Develop an Initial Proposal that identifies prioritized project areas and proposed distribution of federal funds through an efficient and transparent subgrantee selection process
Deployment	Develop a Final Proposal that reviews and strengthens processes and procedures for subgrantee selection identified during Initial Proposal
Deployment	Coordinated infrastructure development
Deployment	Construct resilient networks and infrastructure
Deployment	Assist internet service providers (ISPs) in navigating federal funding requirements
Deployment	Improve permitting processes
Deployment	Increase broadband workforce availability
Access	Ensure that residents of multi-dwelling units (MDUs) have access to home internet service
Access	Promote the development of additional public wi-fi connections
Affordability	Continue to promote participation in the Affordable Connectivity Program (ACP) by ISPs and consumers.
Affordability	Explore other policy solutions and programs to support low- and no-cost internet subscriptions for eligible households should ACP funding lapse

The Office of Broadband Development's efforts to promote broadband deployment, access, and affordability are supported by its collaboration with the Kentucky Education & Labor Cabinet as it develops Kentucky's Digital Equity Plan. Kentucky's Digital Equity objectives are listed below, and strategies in support of these objectives will be included in the separate Digital Equity Plan.

Category	Objective
Equity	Enhance broadband availability and affordability for covered populations
Equity	Ensure access to affordable devices are available for all Kentuckians
Equity	Increase application accessibility and inclusivity to state and local government programs and services
Equity	Ensure that all Kentuckians are equipped to navigate the internet safely

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Equity	Improve digital literacy for all covered populations in Kentucky
Equity	Kentuckians develop the digital skills necessary for work and life

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3   Current State of Broadband and Digital Inclusion

While many Kentucky residents have access to reliable, high-speed internet, many lack access to the same levels of service, which is the critical need that BEAD and similar broadband deployment funding programs seek to address.

The listening sessions, conducted in 14 regional locations and two virtual sessions, identified the following priorities from participants, which are consistent with the Office's priorities of providing service to unserved and underserved areas with reliable, affordable high-speed internet:

- Improved high-speed infrastructure

- Increased speed/reliability of internet connections

- Making internet service more affordable

As shown in Figure 1 below, while over 50 percent of broadband serviceable locations (BSLs) in Kentucky have access to gigabit download speeds, nearly 14% (259,258) of Kentucky BSLs lack access to 25/3 broadband, according to the June 15, 2023 update of the FCC data, which was used to determine states' allocations of BEAD funding. Over 3 percent (60,955) of locations are considered underserved, meaning approximately 17.2 percent of serviceable addresses in Kentucky are without access to 100/20 broadband. [1]
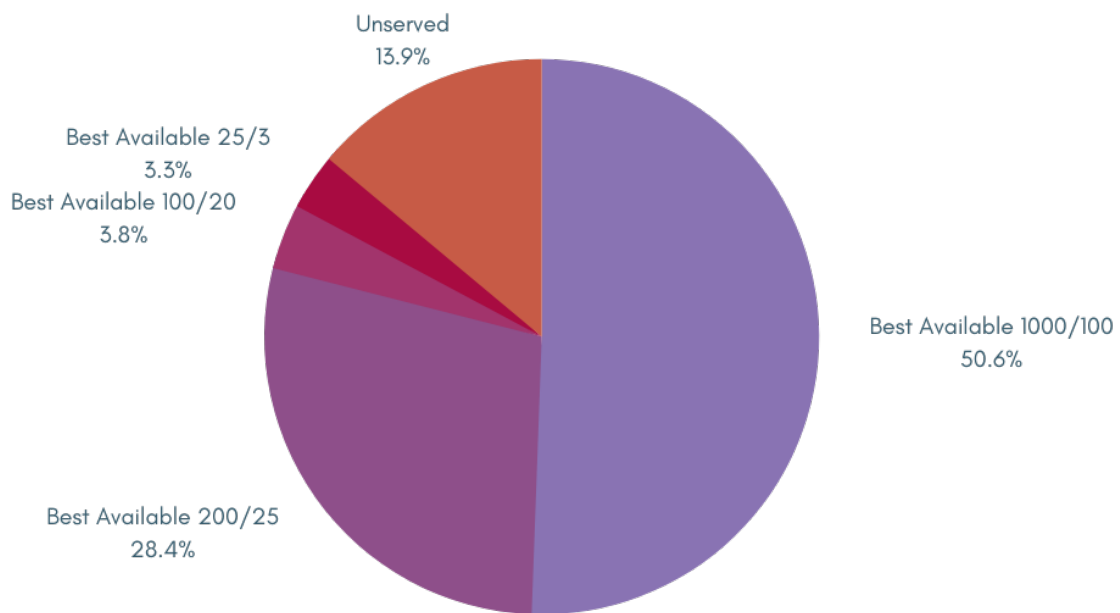

Figure 1: Percentage of Locations by Speed Service Tier

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[1] https://broadbandmap.fcc.gov/home

Table 1 below shows household internet subscriptions by type. Nearly 84 percent of households subscribe to internet services, with cellular phone service being the most common type, followed by cable, fiber optic, or DSL broadband.

Table 1: Household Internet Subscription by Type

Type of Subscription	Percent
With an Internet subscription:	83.9%
Dial-up with no other type of Internet subscription	0.3%
Broadband of any type	83.6%
Cellular data plan	74.6%
Cellular data plan with no other type of Internet subscription	13.0%
Broadband such as cable, fiber optic or DSL	66.2%
Satellite Internet service	7.1%
Without an Internet subscription	16.1%

Source: Source: U.S. Census Bureau, 2017-2021 American Community Survey 5-Year Estimates, Table S2801

In addition to access to infrastructure and household subscription to services, another factor in the adoption of internet service is household device access. Most households in Kentucky have access to one or more internet-enabled devices. However, nearly 1 in 10 households lack access to any type of computing device, and another 1 in 10 households only use smartphones to connect to the internet. Table 1 below shows household access to devices by type.

Table 2: Household Device Access

Device Access	Percent
Has one or more types of computing devices:	90.2%
Desktop or laptop	72.0%
Desktop or laptop only	3.9%
Smartphone	82.8%
Smartphone only	10.9%
Tablet	59.5%
Tablet only	1.3%
Other computer	2.6%

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Other computer only	0.0%
No computer	9.8%

Source: Source: U.S. Census Bureau, 2017-2021 American Community Survey 5-Year Estimates, Table S2801

Outside of access to infrastructure and devices, affordability is another key factor in adoption. The Federal Communication Commission's (FCC) Affordable Connectivity Program (ACP) provides a $30 per month subsidy to eligible households. Nationally, Kentucky has one of the highest participation rates among states, with over 45 percent of eligible households participating.[2] The average monthly minimum cost of a broadband subscription in Kentucky is $38.58[3], so the ACP subsidy can significantly reduce the monthly cost of internet services to low- and moderate-income households. While Kentucky has over 100 broadband providers, only 84 participate in the ACP program.[4]

To address the digital divide in Kentucky, the Office of Broadband Development was established in 2022. Among the statutory responsibilities of the office are management of the Broadband Deployment Fund, acting as a single point of contact for all federal programs for broadband development, developing a statewide broadband plan, and creating and maintaining data, maps, and statistics on broadband availability. The Office is working in partnership with the Department of Workforce Development in the Education & Labor Cabinet, to which the State Digital Equity Plan and programs have been assigned.

3.1   Existing Programs

The following tables summarize the existing and planned activities, staffing, contractor support and programs of the Office of Broadband Development, which primarily support the deployment of broadband infrastructure. The separate State Digital Equity Program will describe the current and planned activities, staffing, contractor support, and programs for digital equity and inclusion.

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[2] https://www.educationsuperhighway.org/no-home-left-offline/acp-data
[3] https://sanbamdata.blob.core.windows.net/bbusa/BBUSACommReports/202106/States/21.html
[4] https://cnm.universalservice.org/

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Table 3 Current Activities of the Office

Activity Name	Description	Intended Outcome(s)
Stakeholder Engagement	Listening sessions were held around the Commonwealth to identify broadband needs and challenges and solicit input from local stakeholders. Additionally, the Office has hosted periodic meetings with the ISPs to gather input and hear feedback on current and planned funding programs. Covered population focus groups and a residential survey were also conducted. Additional opportunities for stakeholder engagement include attendance at national, local, statewide, and regional conferences and meetings attended by local government officials, ISPs, and other stakeholder groups.	Observations and feedback from community outreach will inform the development of the broadband plan, objectives, and implementation of future funding for broadband expansion. Insights specifically related to the unique needs of the covered populations were gathered through these processes as well.
Data Collection	KRS 224A.1118, which established the Office, also required it to develop and maintain data and statistics and create a statewide map of broadband availability. The statewide map was completed in June 2023, will be updated, and maintained to reflect the continued expansion of broadband. Also, an interactive map of where the covered populations reside in Kentucky is available at digitalequity.ky.gov.	Broadband data and maps will identify unserved and underserved locations, help prioritize the allocation of funding, and maximize the impact of federal investments in broadband infrastructure. The map will also allow Kentucky's families and businesses to see where these investments are being made and disseminate information on the status of these awards.

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Rural Infrastructure Improvement Fund	KRS 224A.1123 established the Rural Infrastructure Improvement Fund for the replacement of utility poles required for the extension of high-speed internet to unserved areas. $20M was appropriated for this program.	Removal of a barrier to deployment by defraying an unanticipated cost of extending broadband infrastructure
Broadband Deployment Fund	$300M in ARPA funds was appropriated for broadband projects to extend infrastructure into unserved areas	Expansion of broadband internet service to unserved areas with a priority for areas where speeds above 10/1 do not exist
State agency coordination	Coordination and collaboration with other state agencies, such as the Kentucky State Police, Kentucky Communications Network Authority, and the Kentucky Transportation Cabinet related to broadband access and expansion	Collaboration to maximize state-owned and maintained assets for broadband expansion

Table 4 below lists the current funding programs of the Office of Broadband Development. Table 5 lists additional broadband funding awarded in the commonwealth through ARPA and IIJA. Additional funding awarded to broadband and related projects are listed in Appendix 1.

Table 4: Kentucky Broadband Funding Programs

Purpose	Total	Obligated	Source
Broadband Equity, Access, and Deployment Program	$ 1,086,172,537	$ -	NTIA, Department of Commerce
Better Internet Program – Grants of up to 70% of total project cost (depending on density) to extend broadband infrastructure to unserved areas (under 25/3), with a priority on areas of no service (under 10/1)	$ 182,800,000	$ -	Capital Projects Fund (CPF), Department of Treasury

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Broadband Deployment Fund – Grants of up to 50% of total project costs to extend broadband infrastructure to areas of no service (under 10/1)	$ 117,200,000	$ 89,600,000	State and Local Fiscal Recovery Funds (SLFRF), Department of Treasury
Rural Infrastructure Improvement Program – subsidizes the replacement of utility poles to accommodate broadband infrastructure development to unserved areas.	$ 20,000,000	$ 196,000	State and Local Fiscal Recovery Funds (SLFRF), Department of Treasury

Table 5: Other ARPA and IIJA Broadband Awards in Kentucky

Category	Program	Total	Source
Deployment	ReConnect Loan and Grant Program	$ 85,285,368	Department of Agriculture
Deployment	Broadband Infrastructure Program	$ 3,123,999	NTIA, Department of Commerce
Deployment	Community Connect Grants	$ 2,833,906	Department of Agriculture
Digital Equity	The Emergency Connectivity Program	$ 88,424,681	Federal Communications Commission
Digital Equity	Digital Equity Act	$ 874,236	NTIA, Department of Commerce
Digital Equity	Connecting Minority Communities Pilot Program	$ 2,762,100	NTIA, Department of Commerce
Affordability	Affordable Connectivity Program	$ 144,966,501	Federal Communications Commission

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Table 6 Current and Planned Full-Time and Part-Time Employees

Status	Time	Position	Description of Role
Current	FT	Executive Director	Creating and implementing the policies and procedures of the Office, collaboration with state and federal agencies, local elected officials, and private entities to create and implement a statewide strategy and funding for broadband deployment.
Current	FT	Federal Program Specialist	Provides direction and coordination in the administration of federal grant programs; reviews applications and determines the compatibility of proposed activities with existing state policies and plans; develops funding allocations for third parties; oversees fund-matching requirements and indirect costs.
Current	FT	Grants Administrator	Oversees grant management activities and ensures compliance with federal regulations
Planned	FT	Grants Administrator	Oversees grant management activities and ensures compliance with federal regulations
Planned	FT	ACC Fellow	Supports the Office's outreach and engagement efforts, including developing outreach strategies, building relationships with local governments, non-profits, and service providers, and identifying opportunities to expand broadband adoption. Coordinates project/plan activities with other state agencies, governmental jurisdictions, or private sector partners and contractors.
Planned	FT	Grants Administrator	Oversees grant management activities and ensures compliance with federal regulations
Planned	FT	Federal Program Specialist	Provides direction and coordination in the administration of federal grant programs; this position will focus on environmental compliance and permitting.

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Table 7: Current and Planned Contractor Support

Status	Time	Position	Description of Role
Current	FT	GIS Development & Support Specialist	Supports and maintains the Commonwealth's broadband mapping efforts.
Current	FT	Planning & Mapping Consulting	Consultant team engaged to provide staff augmentation and support in developing statewide plan and map through June 2024.
Planned	PT	Grant Compliance	Monitor programs for compliance with federal regulations

3.2   Partnerships

In order to reach the goal of connecting all Kentucky families and businesses to high-speed internet, the Office of Broadband Development will require collaboration and assistance from many partners and decision-makers to deploy broadband infrastructure. Table 8 below is a list of current or planned partnerships that will be necessary to successfully implement broadband funding programs. Additional partners will be identified throughout the implementation process.

Table 8: Partners

Partners	Description of Current or Planned Role in Broadband Deployment and Adoption
Area Development Districts	Kentucky's EDA-designated Economic Development Districts can assist with identifying capacity gaps in the digital infrastructure of their regions, act as a regional convener, and share information with the Office of Broadband Development. Provide connection to Area Agencies on Aging and local workforce boards.
Community Organizations	Provide a way to connect with residents, businesses, and institutions at the local level. Can assist with local engagement for infrastructure and digital equity planning. Includes Shaping Our Appalachian Region (SOAR), Center for Rural Development, community action agencies, LISC, UK Extension, United Ways, Goodwill, Urban League, and other non-profit agencies.

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Education & Labor Cabinet	Leading State Digital Equity Plan and subsequent Capacity Building programs to encourage equity and adoption of broadband networks. Provides funding and oversight of workforce development programs and efforts.
Industry Associations	Provide input on programs and disseminate information. These partners include the Kentucky Rural Broadband Association and Kentucky Municipal Utility Association
Internet Service Providers	Internet providers are responsible for planning and constructing broadband networks. Will provide input and feedback on planning and implementation of funding programs.
Kentucky Communications Network Authority	Statewide middle mile fiber optic network with capacity to lease dark fiber to ISPs to expand broadband access
Kentucky Department for Local Government	Oversees complementary funding programs including ARC and DRA programs. Conducts Kentucky's intergovernmental review process.
Kentucky Emergency Wireless System	State Police owned network of communications towers with potential to lease tower space to ISPs
Kentucky Heritage Council	State Historic Preservation Office - provides coordination for environmental review process
Kentucky Infrastructure Authority	Provides support to Office of Broadband Development in administration of funding programs.
Kentucky Public Service Commission	Telecommunications division that intersects with ISPs on the telecom and cable side. Does not regulate broadband. Provides context on telecom/cable issues, intersection with ISPs, works closely with FCC.
Kentucky Transportation Cabinet	Access to thousands of miles of public right-of-way along state highways.
Local Governments	Local coordination to identify needs & gaps, obstacles & barriers, and participate in construction of infrastructure. In addition to direct outreach to local officials, the Office will share information with Kentucky Association of Counties and Kentucky League of Cities.

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| Workforce Development Organizations | Responsible for developing talented workforce required for broadband deployment. Includes local workforce boards, trade unions, educational institutions, industry associations, Chambers of Commerce, etc. |

3.3 Asset Inventory

As the Commonwealth's central broadband planning and coordination entity, the Office is responsible for developing and maintaining statewide data and statistics, developing a comprehensive plan for broadband development, and creating an interactive broadband map. Data collected for these efforts include both physical or "hard" assets important to the deployment of broadband networks as well as the "soft" assets – organizations, policies, and programs – that enable broadband access and adoption. Some of the existing assets are listed below, but data collection will continue during implementation of the BEAD and Digital Equity programs.

Table 9: Asset Inventory

Asset	Type	Category	Description
Public Wi-Fi Networks	Soft	Access	Public Wi-Fi networks were a critical resource during the COVID-19 pandemic for people without home internet access. The Office is in the process of cataloguing public networks and compiling them on a statewide map.
Public Libraries	Soft	Access	Libraries provide device and internet access to the public. Many public libraries provide career services and soft skills training, including digital literacy skills, and lend out mobile hotspots for use away from the library.
Digital Navigators	Soft	Adoption	Digital Navigators, hosted by community organizations such as SOAR, help citizens improve their digital skills, use computing devices, and connect to the internet.
ACP Eligible Households	Soft	Affordability	An estimated 846,290 Kentucky households are eligible for the ACP program. As of May 1, 2023, 381,758 households are enrolled in the program; approximately 45% of the estimated eligible households.[5]

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[5] https://www.educationsuperhighway.org/no-home-left-offline/acp-data/

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Kentucky Geography Network	Soft	Deployment	The Kentucky Department of Geographic Information manages a variety of geospatial data, software licenses, aerial photography, and other services. Much of the data is distributed publicly and can be used to inform and analyze broadband development.
Work Ready Kentucky Scholarship Program	Soft	Deployment	A collaborative effort between the Education & Labor Cabinet, public and private universities, and Kentucky Community and Technical Colleges to provide tuition assistance to Kentucky students and adults to obtain an industry-recognized certificate, associate degree in applied science or diploma at one of 21 participating colleges and universities throughout the Commonwealth, in one of Kentucky's high-demand industry sectors, which includes many programs in the broadband career pipeline.
Registered Apprenticeship Programs	Soft	Deployment	Kentucky's Registered Apprenticeship program helps businesses develop their workforce, by increasing employee retention and finding qualified candidates for hard-to-fill jobs. This program helps businesses develop talent through work-based training initiatives, combining on-the-job training with first-hand experience. Broadband technicians and line workers are among the occupations eligible for this program.
Office of Systems Equity	Soft	Equity	The newly created Office of Systems Equity, in the Department of Workforce Development, in the Kentucky Education & Labor Cabinet is leading the Commonwealth's Digital Equity Plan and programs.

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Kentucky Wired	Hard	Deployment	KentuckyWired is a statewide, open access middle mile network, consisting of over 3,000 miles of high-speed, high-capacity fiber optic cable with a node in all 120 counties. The network connects government offices, universities, community colleges, state police posts, state parks, and other state government institutions to the internet. KentuckyWired is a 288-strand fiber optic network, with half of the fibers designated to state government functions and the excess dark fiber available for lease to internet service providers.
Water Tanks & Towers	Hard	Deployment	Kentucky has over 1,400 water tanks, the majority of which are owned by public water systems. Internet service providers frequently use water tanks as locations to install antennas for fixed wireless deployments.
Telecommunications Towers	Hard	Deployment	Publicly and privately owned telecommunications towers may be available to fixed wireless providers. In addition to existing towers, the State Police is expanding the Kentucky Emergency Wireless System (KEWS) network of towers statewide. While the network's primary purpose is public safety communications, tower space may be made available to lease by internet providers for wireless applications.
Public Rights of Way	Hard	Deployment	Expansion of broadband networks within public rights-of-way allows internet providers to avoid having to negotiate easements with individual landowners for each property impacted by the project. Kentucky has 57,812 miles of publicly owned transportation rights-of-way.

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The Education and Labor Cabinet is in the process of developing Kentucky's first Digital Equity Plan and is developing an inventory of digital equity assets. More information on Digital Equity in Kentucky can be found at digitalequity.ky.gov.

3.4 Needs and Gaps Assessment

Achieving universal service will require multiple strategies to close existing needs and gaps. During the listening sessions held in the spring of 2023, the Office heard about needs and gaps directly from residents and stakeholders across the Commonwealth. These needs and gaps, along with others that have been identified by the Office, are listed in this section. Here, "needs" describe an unmet ideal outcome, and "gaps" describe specific shortcomings to be addressed.

Needs	Category	Gaps to Close
Increased Access to High-Speed Internet Service	Deployment	• 259,258 unserved locations • 60,955 underserved locations • Identify unserved and underserved CAIs
Increased Wi-Fi Access in Multi-Dwelling Units	Access	• 43,661 unconnected households in MDUs • 717 MDU locations potentially eligible for free apartment wi-fi
Increased Household Broadband Subscription	Adoption	• 16% of Kentucky households lack internet subscription of any type • 34% of Kentucky households lack subscription to terrestrial broadband
Increased ACP enrollment	Affordability	• 846,290 Kentucky households are eligible for the ACP program • 381,758 households are enrolled in the program • $145m of ACP funding has been expended in Kentucky
Increased financial assistance for low-income consumers	Affordability	• Reach 100% participation in ACP by providers • Identification of additional programs for low- and moderate- income households
Robust telecommunications workforce	Deployment	• Estimated 7.0% deficit in workforce required to complete BEAD buildout[6]

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[6] NTIA "State Workforce Research Findings – Kentucky."

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Improved permitting and coordination processes	Deployment	• Work with local, state, and federal stakeholders to offer a streamlined permitting and consultation processes
Efficient supply chain for access to materials	Deployment	• Lead times on components • Ability of suppliers to meet Build America, Buy America requirements

The Education & Labor Cabinet will identify additional needs and gaps as part of its state Digital Equity Planning process. The Office and ELC will work collaboratively through the implementation of BEAD and the state Digital Equity plan to address common and overlapping needs and gaps.

4   Obstacles or Barriers

The key obstacle addressed by BEAD and other funding programs is the cost of constructing broadband infrastructure in some locations. In addition to commercial feasibility gap that BEAD seeks to close, and the needs and gaps related to broadband deployment identified in the previous section, there are additional obstacles and barriers facing Kentucky as public and private funds are being deployed at unprecedented levels to expand access to high-speed internet nationwide. The Office has begun anticipating potential obstacles and barriers to deployment and will develop strategies to mitigate potential impacts on the speed and cost of building new infrastructure.

4.1   Deployment Obstacles or Barriers

▪ Topography

Fifty-four (54) of Kentucky's 120 counties are part of the Appalachian region. These counties are characterized by mountainous, forested terrain, which is often associated with extremely high cost for buried fiber builds due to the need to trench rock, and low population density. While aerial construction is less costly to deploy, it is also more susceptible to storm damage. Wireless applications may be challenging to deploy in some areas due to line-of-sight issues related to topography and vegetation. While some areas within the Appalachian region of Kentucky have access to reliable, fast connections due to the early adoption of fiber optic infrastructure by internet providers including Kentucky's rural telephone cooperatives, there are still others where connectivity is limited or non-existent due to the cost of deployment. In addition to topographic challenges, 36 of the 54 Appalachian counties are economically distressed, and another 14 are "at-risk"[7], underscoring the need for public investment to close the market gap in these areas.

To address the hardest to serve areas, the Office must weigh several factors including the cost of deployment and availability of funds. These decisions will require continued engagement and input from service providers, stakeholders, and impacted community members to determine solutions for areas where the cost of deploying fiber is determined to be extremely high, including, but not limited to, higher subsidies, additional subsidies from partners such as the Appalachian Regional Commission, or deployment of appropriate alternative technologies.

▪ Workforce Availability

Workforce availability could have an impact on the speed and cost of broadband deployment. Kentucky has many programs, such as lineman schools, apprenticeships, industry and union-sponsored certification programs, that provide a solid foundation for

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[7] https://www.arc.gov/wp-content/uploads/2022/06/CountyEconomicStatusandDistressAreasFY2023Kentucky.pdf

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training Kentucky's broadband workforce. For example, during the construction of the 3,000-mile KentuckyWired network over the last several years, state leaders identified a shortage of fiber optic technicians as an obstacle to the construction of the network. The Kentucky Community and Technical College System (KCTCS) partnered with the Fiber Optic Association (FOA) to increase the number of training centers offering the FOA fiber optic technician certification. This partnership successfully increased the number of fiber optic technicians in Kentucky, and according to the FOA, partnerships modeled after this are being pursued in other states.

Training opportunities are readily available, so the workforce development barrier that Kentucky will face is related to the availability of workers. Kentucky is experiencing historically low unemployment rates, at 3.8 percent[8] in June 2023, slightly higher than the national unemployment rate at 3.6 percent[9]. Increasing labor force participation can include encouraging internet providers and contractors to adopt existing solutions and strategies such as Work Opportunity Tax Credits and Fair Chance Bonding for "hard to place" workers[10] and working with Re-Entry Councils[11] to recruit additional workers into broadband professions. In addition, the Commonwealth has launched Jobs on Day One. It is a framework for a three-phase reentry approach to improve reentering Kentuckians' employment outcomes and facilitate talent pipelines for Kentucky businesses. The three phases include: pre-release (skills training and exposure to job opportunities); employment immediately upon release through connections of interested businesses; and post-employment supportive services to ensure retention.

▪ **Permitting**

Broadband projects require numerous permitting and compliance steps before construction can begin, including but not limited to utility locates, rights-of-way permits, pole attachment agreements, railroad crossing, and environmental permitting and review. This requires coordination with multiple federal, state, and local entities. The staffing levels at these entities and their capacity to process these requests can significantly impact the timelines of these construction projects, and the fees associated with permitting can add significant costs to a project.

Permits to cross federal lands, such as national forests, have a lengthy processing time due to similar staffing constraints. The Daniel Boone National Forest covers 708,000 acres across 21 counties in Kentucky, and the estimated 270-day processing time for these permits will impact the timeline of projects within the national forest.

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[8] https://kystats.ky.gov/KYLMI/PressRelease/6e288225-23be-4256-b8f3-fa97940d9a24
[9] https://www.bls.gov/charts/employment-situation/civilian-unemployment-rate.htm
[10] https://kyworks.ky.gov/Services/Pages/Kentucky-Fair-Chance-Bond.aspx
[11] https://corrections.ky.gov/Reentry/Pages/ReentryCouncils.aspx

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The BEAD program is subject to the National Environmental Policy Act (NEPA), and all projects must complete an environmental review prior to construction. This includes consultation under Section 106 of the National Historic Preservation Act and consultation with interested federally recognized Indian tribes, as well as consultation with US Fish and Wildlife Services regarding endangered species. While initial consultations on historic preservation and endangered species must be completed in a specified timeframe, any findings discovered in the consultation phase must be addressed before the project may proceed, which can add time and expense to the project.

- **Procurement**

Private internet service providers are generally not subject to state and federal procurement regulations and are thus able to leverage long-standing relationships and pricing with contractors and suppliers. Increased demand for supplies and labor due to increased construction of broadband networks and other infrastructure has resulted in significant cost increases. In response to these concerns, in May 2023, the US Department of Treasury issued supplemental guidance on 24 CFR Part 200 Procurement and Cost Principles that alleviated some of these concerns. NTIA has recently sought comments on the same codes, which may seek to alleviate these concerns related to BEAD.

A more recent federal requirement, the Build America Buy America Act (BABA), has created concerns in the broadband industry related to components and supplies. While it is beneficial and desirable for domestically produced materials to be used in federally funded projects, the American-made supply of some products required for broadband infrastructure is lacking. It is yet unclear what flexibilities will be granted for products that are difficult to source domestically and how compliance with these requirements will be monitored.

- **Provider Participation**

While population-dense areas have seen significant investments in upgrades to and expansion of broadband infrastructure, many rural areas have not experienced the same investments due to the economic challenge of delivering service. As the availability of federal and state subsidies have increased in recent years, internet providers are increasingly taking a greater interest in improved infrastructure in rural areas. Kentucky's Broadband Deployment Fund prioritizes deployment of fiber optic infrastructure to areas lacking high-speed internet as well as providing a higher subsidy to construct networks in less dense areas. These priorities align with the priorities of the BEAD program. However, there are still areas of the commonwealth that have not generated much interest in or competition for grant funds at the current subsidy level. The Office will need to identify these areas, the specific barriers, and strategies to overcome the barriers, which could include adjustment to or waiver of matching requirements, braiding of federal funding sources, consideration of alternative technologies, or other strategies.

Another obstacle that has been identified is the letter of credit requirement of the BEAD program. Subrecipient applications must provide a letter of credit issued by a qualified bank for 25% of the grant amount to guarantee to the state broadband office that there is sufficient liquidity in a subrecipient's account to claw back should the applicant not meet grant terms. This requirement will require ISPs to reserve these funds in accounts for the life of the project. Further, banks may charge 2 to 5 percent of the amount annually in fees, adding to the cost of completing these projects. Additionally, this requirement could effectively prevent new and small ISPs from participating in the program. Current Kentucky Broadband Deployment Fund grant programs require subrecipients to secure payment and performance bonds to ensure project performance, and do not require a letter of credit.

4.2   Adoption & Affordability Obstacles or Barriers

As outlined in Section 3, many households lack access to internet-capable devices and do not subscribe to home internet services. Listening session feedback indicated that 30 percent of attendees felt that people did not subscribe to the internet because they did not have the skills necessary to connect. While strategies to increase digital skills and access to devices will be outlined in the Digital Equity plan, this Action Plan and the Digital Equity Plan share the concern of adoption of household internet subscriptions.

Successful deployment of broadband infrastructure requires adequate rates of adoption of services for networks to be sustainable. A current barrier to adoption is lack of available infrastructure in some areas, but once universal access is achieved, ISPs will rely on revenue generated by customers to sustain the operations of the networks over the long term. The obstacle of affordability is addressed in part through subsidy programs such as the ACP, however, current projections estimate that the program will exhaust its funds by March 2024. This is a particular concern for ARPA and BEAD funding programs, which require subrecipients to participate in this program to be eligible for funding. Over 300,000 Kentucky households participate in the ACP. The affordability of existing household subscriptions could be jeopardized by the loss of this important subsidy program.

While most Kentucky residents do, or want, to purchase home internet subscriptions, there are some residents that will not subscribe no matter the cost, including members of some religious communities. To the extent possible, identifying locations that do not want broadband deployment and investigating the possibility of requesting a BEAD deployment exemption from NTIA for these locations to preserve funds for other project areas may be necessary.

4.3   Access Obstacles or Barriers

While many multi-dwelling units (MDUs) are reported as served in FCC data because of proximity to infrastructure or the existence of service to the structure, individual units may

lack internet access. According to Education SuperHighway, "three barriers exist when it comes to the adoption of broadband internet amongst residents in MDUs: affordability, enrollment, and lack of options." Internet access in multi-dwelling units can further be an obstacle due to age and construction of the building or lack of maintenance of inside wiring and equipment. According to Education SuperHighway, Kentucky potentially has 43,661 unconnected households in 717 MDU structures[12] that could potentially be eligible for free apartment wi-fi.

Community Anchor Institutions (CAIs) often provide a means for residents lacking home internet to connect. During the listening sessions across the state, attendees often underscored the value of CAIs such as public libraries in filling in access gaps in local communities through wi-fi connections and device lending programs. The KentuckyWired network connects many community anchors and government facilities across the commonwealth, and the Office is working to identify additional CAIs that lack connectivity.

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[12] https://www.educationsuperhighway.org/no-home-left-offline/apartment-wifi/

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5   Implementation Plan

5. 1   Stakeholder Engagement Process

Stakeholder engagement has been an important, and ongoing, process for broadband deployment in Kentucky, and began with the first round of funding in 2021. Stakeholder engagement will be a continuous process throughout the implementation of the BEAD program in Kentucky. This section describes the Office's current and future efforts related to stakeholder engagement.

The local coordination requirements of the BEAD program outlined in the BEAD NOFO were considered throughout the planning, outreach, and engagement phases of Kentucky's stakeholder engagement efforts, including:

1. Full geographic coverage of the Eligible Entity: The statewide listening tour visited communities across the state, covering urban, suburban, and rural areas. The tour was supported by Kentucky's Area Development Districts, which represent all 120 Kentucky counties.

2. Meaningful engagement of and outreach to diverse stakeholder groups was accomplished by conducting multiple in-person listening sessions with key stakeholder groups, including residents, community-based non-profits and digital inclusion practitioners, local governments, and ISPs.

3. Utilization of multiple awareness and participation mechanisms and different methods to convey information and outreach was accomplished by promotion of events through press releases in each community, promotion of events on the Office's website and the Commonwealth's social media channels, email, and local media coverage of events.

4. Establishment, documentation, and adherence to clear procedures to ensure transparency. Events included accessibility considerations for covered populations, regular website updates, and frequent meetings with other state agencies, non-profits and community organizations, local governments, and internet service provider associations.

5. Outreach and engagement of unserved and underserved communities, including historically underrepresented and marginalized groups and/or communities was a consideration in planning the outreach, including targeted outreach to covered populations.

▪ Statewide Listening Tour

The Office and ELC hosted a 14-stop listening tour, in partnership with the Area Development Districts in their role as regional convenors and stakeholders. The listening

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sessions allowed the public to participate in the planning process and provide feedback on internet access and use in their communities directly to state officials. In addition to the 14 in-person stops, two statewide virtual meetings were held—one during the day and one during the evening— to allow participation from residents who were unable to attend in person. Over 400 participants from across the commonwealth attended to share local perspectives. Public promotion of the tour included outreach to local governments, community anchor institutions, and nonprofits serving covered populations, as well as press coverage and social media announcements. Attendance by covered population included:

- 59% rural residents

- 32% people with disabilities

- 39% low-income households

- 28% veterans

- 39% seniors

- 25% people of color

- 23% individuals with language barriers

- 17% justice-involved people

During the discussions, officials from local governments, internet service providers, non-profits, residents, and for-profit businesses, as well as education, libraries, and healthcare provided input.

Participants were led through discussions that included a summary and timeline of the BEAD and DE programs, as well as facilitated discussion related to high-speed internet needs, barriers, digital inclusion, and impacts on their community. Digital meeting facilitation tools were used to pose questions to guide discussion and collect and aggregate responses.

▪ **Focus Groups**

In addition to the statewide listening sessions, the ELC has begun hosting a series of focus groups to gather insights from covered populations. As of August 2023, at least one focus group for each covered population have been hosted with plans to hold more. The focus groups included participants living in covered households, aging individuals, individuals with disabilities, low income, rural communities, justice involved, individuals with a language barrier, racial or ethnic minorities, and veterans.

Focus group feedback indicates that cybersecurity is a serious concern for older adults and veterans. For participants with literacy challenges or a language barrier, the lack of in-person services in their native languages (such as live phone operators, versus written or online communication) presents a challenge; they discussed preferring to do things with a live

person rather than a form or website. For many, those forms are too difficult to navigate without assistance, no matter what language the form is presented in.

For others, the monthly cost of home internet service is a barrier, leading families to resort to free Wi-Fi hotspots in restaurant parking lots or libraries as their only option. These challenges and existing financial and social stressors lead many non-English speakers to choose not to subscribe. The ELC continues to conduct more of these focus group meetings to provide a clearer picture of broadband adoption and barriers among covered populations in the Commonwealth.

▪ **Provider Advisory Group**

In March 2023, the Office hosted an advisory meeting with the internet service provider community. During this meeting, the Office encouraged discussion from ISPs related to policy issues contained in BEAD to guide the Office's decisions in these matters. Additional meetings and outreach will be held with ISPs as Kentucky develops its Initial and Final Proposals.

▪ **General Outreach**

Office staff continuously engage the Commonwealth's many stakeholders by accepting meetings and speaking engagements to promote the Office's activities related to broadband planning and deployment. Staff have met individually with elected officials, other state agencies involved in broadband deployment, community organizations, and industry officials. Additionally, staff have provided program updates to stakeholder groups at meetings and events held by groups such as the Kentucky County Judge/Executive Association, the Kentucky Rural Broadband Association, the Kentucky Municipal Utility Association, the Kentucky 811 conference, as well as many local and national stakeholder groups and associations.

5.2   Priorities

Table 8 lists the priorities for broadband deployment in Kentucky. Consistent with the state's vision and goals, the principles supporting this five-year plan include prioritizing funding to unserved areas. The state Digital Equity Plan will define additional priorities related to digital inclusion, adoption, and equity.

Table 10: Priorities for Broadband Deployment

Priority	Description
Deployment of broadband infrastructure	Increase commercial feasibility of expanding access to all locations by subsidizing the cost of construction
Adoption of home internet subscriptions	Increase adoption of home internet services statewide and particularly among covered populations
Efficient infrastructure development	Identify and overcome barriers to deployment such as permitting processes and pole attachments
Coordinated infrastructure development	Coordinate broadband expansion that leverages existing publicly owned resources, such as public rights-of-way and KentuckyWired dark fiber
Affordability	Increase household and ISP participation in ACP and encourage the expansion of other affordability programs
Community Engagement	Continuous community engagement to identify and address unserved and underserved areas

5.3   Planned Activities

The Office of Broadband Development will create a subaward process for the BEAD program that will result in expanded access to high-speed internet in Kentucky. The Office will develop and administer a subgrant process that harmonizes the requirements of KRS 224A.1121 and the BEAD program. Subaward agreements will be implemented between the Commonwealth of Kentucky and eligible grantees: local governments or internet service providers.

Kentucky's BEAD subgrantee process will allow eligible applicants to apply for funds to deploy broadband service to unserved and underserved areas, with a priority to fund projects in unserved areas of the Commonwealth. Expansion of fiber optic networks will be prioritized where practical and feasible, however, the Office realizes that depending on available funding resources and costs to extend service, there will be some locations where "best available technology" will be considered to provide service.

Kentucky's Initial Proposal will include a list of locations eligible for funding as well as a detailed description of the Commonwealth's priorities and the subgrantee selection process. Eligible locations will be identified by Location ID from the Federal Communication Commission (FCC) Broadband Serviceable Location (BSL) Fabric. These locations will be validated through a state challenge process prior to accepting applications.

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The Office will define the "extremely high-cost threshold" for which subgrant proposals for "best available technology" may be considered. Once all unserved locations are addressed, underserved locations and community anchor institutions may be considered for subgrants. The funds will be awarded to subgrantees through multiple award cycles.
Generally, the subgrantee selection will follow these steps:

1. The Office of Broadband Development will publish the prioritized list of unserved and underserved BSLs eligible for funding.

2. The Office will solicit proposals from eligible subgrantees to deploy broadband to eligible locations through a competitive subgrant process.

3. The Office will conduct a challenge process in accordance with KRS 224A.1121 to remove from consideration any locations that are under construction, planned for construction within 12 months, have an enforceable funding commitment, or are already served. This challenge process will be separate from the Initial Proposal State Challenge Process.

4. The Office will review applications based on criteria published in the initial proposal. The Office reserves the right to negotiate with potential subgrantees to facilitate expansion of project scope to reach additional locations.

5. The Office will award funds to projects based on scoring criteria.

Projects will be monitored periodically throughout the period of performance for compliance and testing will be conducted after completion to verify service.

5.4   Key Execution Strategies
This section will identify strategies and actions that will be undertaken to accomplish the Goals and Objectives.

Category	Objective	Strategies
Deployment	With ISPs and local governments, identify unserved and underserved locations in need of broadband infrastructure	• Review existing availability data and resolve disputes regarding existing service • Identify enforceable funding commitments • Identify planned construction Conduct State Challenge Process

Deployment	Eliminate unserved locations (speeds of less than 25/3), prioritizing areas of "no service" (under 10/1), low density areas, and high-cost locations, deploying networks capable of least 100/20 with scalability to 100/100	• Identify "no service" areas, low density areas, and high-cost locations • Develop subgrant processes to encourage inclusion of these locations in project proposals Identify community anchor institutions (CAIs) lacking high-speed internet access
Deployment	Eliminate underserved areas (speeds less than 100/20), deploying networks capable of least 100/20 with scalability to 100/100	• Identify underserved locations Develop subgrant processes to encourage inclusion of these locations in project proposals Identify underserved community anchor institutions (CAIs)
Deployment	Identify and leverage other potential funding sources to maximize federal investments	• Identify other funding sources Conduct a "best fit analysis" for unserved locations that may be served by another available funding source.
Deployment	Develop an Initial Proposal that identifies prioritized project areas and proposed distribution of federal funds through an efficient and transparent subgrantee selection process	• Define and develop program priorities, eligibility, and scoring criteria for subaward process. Identify areas where "best available technology" may be used if fiber optic networks are not feasible.
Deployment	Develop a Final Proposal that reviews and strengthens processes and procedures for subgrantee selection identified during Initial Proposal	• Finalize program processes and priorities for awarding BEAD funds to subgrantees.
Deployment	Coordinated infrastructure development	• Identify opportunities for broadband expansion in conjunction with other publicly funded infrastructure projects. • Leverage publicly owned assets for last-mile broadband deployment

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Deployment	Construct resilient networks and infrastructure	• Prioritize disaster-resistant construction methods • Encourage redundancy in networks • Encourage smart-grid technologies
Deployment	Assist providers in navigating federal funding requirements	• Develop online grant portal to take projects from application to closeout • Conduct post-award meetings with grantees to discuss requirements and compliance • Develop administrative manual to assist grantees with funding compliance • Encourage increased participation of non-traditional providers (electric co-ops, local governments) to fill gaps
Deployment	Improve permitting processes	• Devote staff resources to assisting grantees with permitting processes such as rights-of-way permits and environmental review • Coordinate with electric utilities to improve pole attachment permitting process.
Deployment	Increase broadband workforce availability	• Promote existing programs to support the development of broadband workforce, including registered apprenticeships, Work Ready Kentucky Scholarship programs, and broadband related programs in Community & Technical Colleges • Create a Kentucky Broadband Career Hub • Pursue federal, state and foundation funding to address broadband workforce needs

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		through the Department of Workforce Development
Access	Ensure that residents of multi-dwelling units (MDUs) have access to home internet service	• If available funding allows, offer Wi-Fi access to MDUs including public housing and other affordable housing units
Access	Promote the development of additional public wi-fi connections	• Encourage inclusion of public wi-fi connections in project proposals
Affordability	Continue to promote participation in the Affordable Connectivity Program (ACP) by ISPs and consumers.	• Develop outreach materials and awareness campaigns to promote enrollment
Affordability	Explore other policy solutions and programs to support low- and no-cost internet subscriptions for eligible households should ACP funding lapse	Work with ISPs and other community partners to explore subscription structures and alternative subsidy programs and funding sources to support low- or no-cost subscriptions

5.5   Estimated Timeline for Universal Service

The timeline for reaching universal service must consider all public and private funding for broadband deployment aside from BEAD.

The BEAD program requires subgrantees to finish network deployment within four years of receiving funds, with potential for extension by no more than 12 months. For its earlier Broadband Deployment Fund grant programs, Kentucky has required grantees to finish awarded projects within a two-year timeframe. The Office anticipates BEAD funding will be distributed in multiple rounds due to the amount of available funding, with the earliest projects being awarded in 2024, and additional funding rounds in 2025. Barring issues such as supply chain and permitting issues that could necessitate project extensions, projects funded by BEAD will conclude by the end of 2030.

Other related public funding programs are also expected to conclude by December 31, 2028, including RDOF and CAFII[13]. Grants from Kentucky's Broadband Deployment Fund,

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[13] https://www.fcc.gov/document/rdof-eighth-authorization-public-notice

funded through ARPA SLFRF and Capital Projects Funds, are required to be complete by the end of 2026 (SLFRF) and 2027 (CPF). CAF II Auction 903 recipients are required to finish deployment within six years after the start of support. Support through this program began in 2019, so it will end in 2025.[14]

Assuming that BEAD funding and funding through other public programs, coupled with matching private funding in broadband infrastructure, is sufficient to reach all Kentucky locations, the estimated timeline for achieving universal service will coincide with the conclusion of these programs' timelines by 2030.
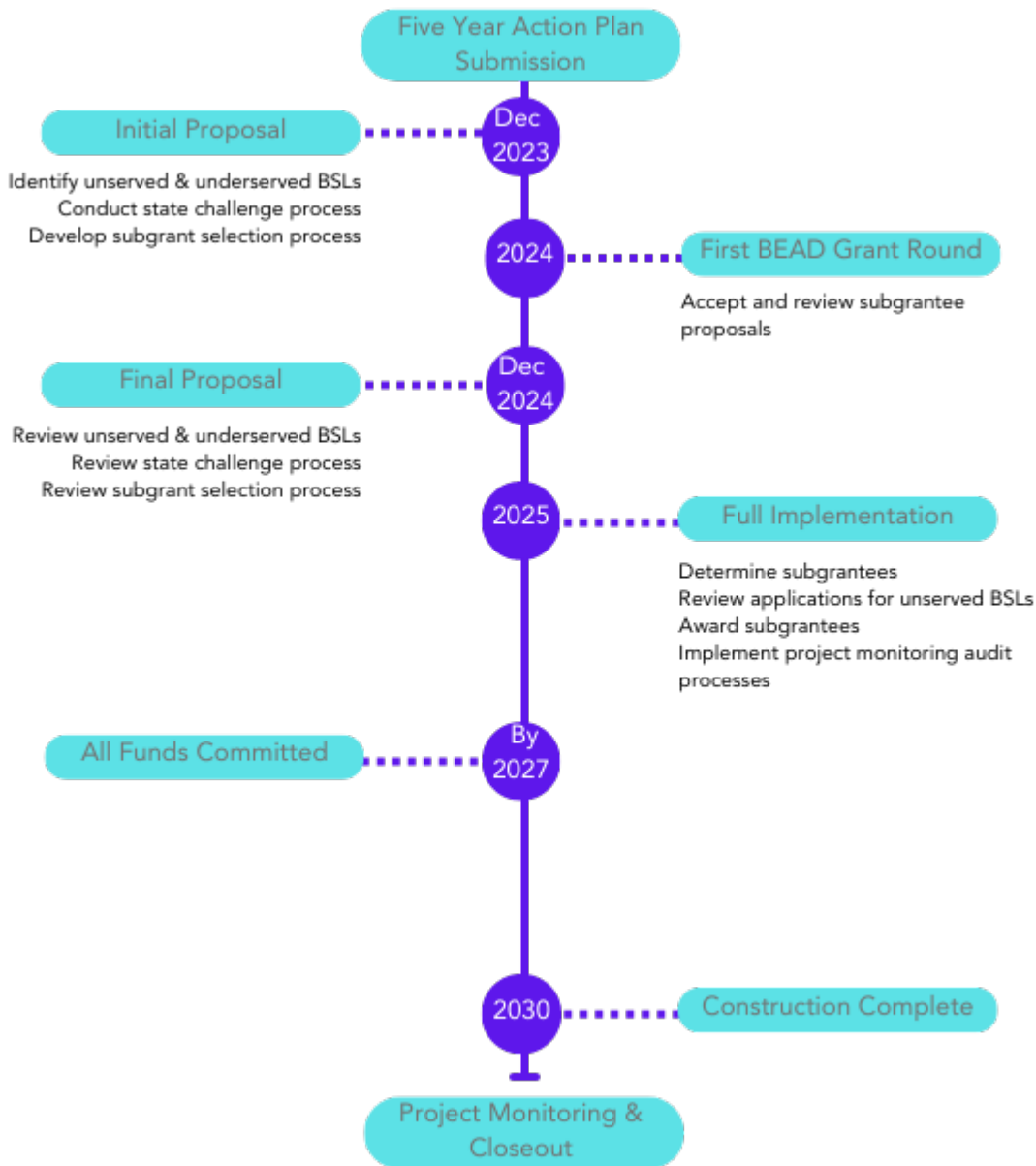

Figure 2 Estimated BEAD Implementation Timeline

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5.6   Estimated Cost for Universal Service

The estimated total cost to achieve universal service is $2.46 billion. This number derived from the average cost per location ($7,695), including match, of projects funded in the first round of Kentucky's Broadband Deployment Fund and the applications received during the 2022 Better Internet Program round, multiplied times the estimated number of unserved and underserved locations (259,258 unserved and 60,955 underserved).

This estimate will continue to be refined as additional data is collected and after the extremely high-cost threshold is established. The Office estimates that the cost to construct fiber optic infrastructure in these areas will exceed the average cost per location funded or proposed in prior grant rounds. To date, Kentucky has required matching funds to comprise 30 to 50 percent of project costs, which exceeds BEAD requirements.

5.7   Alignment

The Office of Broadband Development is the central broadband office for the Commonwealth of Kentucky. The Office is responsible for developing and implementing a statewide plan for broadband deployment and administers federal funds for broadband infrastructure from ARPA and BEAD. The Education and Labor Cabinet (ELC) is the responsible entity for the Digital Equity Act planning grant.

The Office and the ELC initiated collaborative planning efforts for the development of this Five-Year Action Plan and the separate Digital Equity Plan. These initiatives have different objectives but share the vision that all Kentuckians have access to affordable, reliable high-speed internet. Both teams were involved and attended each of the listening sessions and the Office is part of the Digital Equity Core Planning Team and participates its regular meetings. Frequent communication and collaboration occur between the members of each team including the development of goals, strategies and activities included in this plan as well as the DE plan when submitted.

5.8   Technical Assistance

Technical assistance on the following topics would be beneficial for Kentucky's BEAD program:

- Setting the "extremely high-cost location" threshold

- Labor Standards and workforce requirements

- Overview of compliance, reporting, and monitoring processes

- Subgrantee reporting requirements

    o   Procurement requirements

    o   Build America, Buy America guidelines

6   Conclusion

Kentucky's Five-Year Action Plan outlines the guiding vision, goals, and objectives, and the needs, gaps, obstacles, and barriers that must be overcome to achieve universal access. Further, it outlines the implementation plan and strategies that will shape the approach to the BEAD program in Kentucky. Building on the success of prior funding programs and initiatives, this plan aims to bring universal access to high-speed internet and increased opportunities for quality of life, economic wellbeing, healthcare, and education to every Kentuckian.

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7 Appendix I

Federal Awards for Broadband Deployment and Digital Equity Projects

Fiscal Year	Award Amount	Funding Agency	Grantee	Program/Project
2007	$ 65,710	USDA	FNS, Inc.	Distance Learning and Telemedicine Loans and Grants
2008	$ 136,830	USDA	Liberty Communications, Inc.	Community Connect Grant Program
2008	$ 97,097	USDA	The Center for Rural Development, Inc.	Distance Learning and Telemedicine Loans and Grants
2009	$ 535,308	NTIA	City of Williamstown	Broadband Technology Opportunities Program
2009	$ 365,318	USDA	Carter County School District	Distance Learning and Telemedicine Loans and Grants
2009	$ 90,469	USDA	Communicate, Inc.	Distance Learning and Telemedicine Loans and Grants
2009	$ 108,013	USDA	Eastern Kentucky University	Distance Learning and Telemedicine Loans and Grants
2009	$ 896,717	USDA	Inter Mountain Cable, Inc.	Community Connect Grant Program
2009	$ 16,693	USDA	Mountain Comprehensive Health Corporation	Distance Learning and Telemedicine Loans and Grants
2009	$ 146,613	USDA	Mountain Comprehensive Health Corporation	Distance Learning and Telemedicine Loans and Grants
2010	$ 16,048	USDA	Crystal Broadband Networks, Inc.	Broadband Initiatives Program
2010	$ 12,739,679	USDA	Foothills Rural Telephone Cooperative	Broadband Initiatives Program
2010	$ 4,861,538	USDA	Leslie County Telephone Company	Broadband Initiatives Program
2010	$ 829,812	USDA	Mikrotec CATV LLC	Broadband Initiatives Program
2010	$ 38,281,044	USDA	Mountain Rural Telephone Cooperative	Broadband Initiatives Program
2010	$ 17,859,928	USDA	Peoples Rural Telephone Cooperative	Broadband Initiatives Program

Fiscal Year	Award Amount	Funding Agency	Grantee	Program/Project
2010	$ 1,934,474	USDA	Salem Telephone Company	Broadband Initiatives Program
2010	$ 5,185,932	USDA	Thacker-Grigsby Telephone Company, Inc.	Broadband Initiatives Program
2010	$ 55,502,299	USDA	West Kentucky Rural Telephone Cooperative	Broadband Initiatives Program
2011	$ 461,347	USDA	Bath County School District Finance Corporation	Distance Learning and Telemedicine Loans and Grants
2011	$ 478,025	USDA	Crystal Broadband Networks, Inc.	Community Connect Grant Program
2011	$ 490,859	USDA	Crystal Broadband Networks, Inc.	Community Connect Grant Program
2011	$ 504,549	USDA	Crystal Broadband Networks, Inc.	Community Connect Grant Program
2011	$ 561,842	USDA	Crystal Broadband Networks, Inc.	Community Connect Grant Program
2011	$ 563,400	USDA	Crystal Broadband Networks, Inc.	Community Connect Grant Program
2011	$ 112,751	USDA	Ephraim McDowell Health Care Foundation, Inc.	Distance Learning and Telemedicine Loans and Grants
2011	$ 70,010	USDA	Grace Community Health Center	Distance Learning and Telemedicine Loans and Grants
2011	$ 773,445	USDA	Inter Mountain Cable, Inc.	Community Connect Grant Program
2011	$ 117,560	USDA	Kentucky River Community Care, Inc.	Distance Learning and Telemedicine Loans and Grants
2011	$ 236,394	USDA	Norton Healthcare Foundation, Inc.	Distance Learning and Telemedicine Loans and Grants
2011	$ 132,522	USDA	Pendleton County Board of Education	Distance Learning and Telemedicine Loans and Grants
2012	$ 230,294	USDA	Hazard Community and Technical College	Distance Learning and Telemedicine Loans and Grants
2012	$ 1,059,704	USDA	Inter Mountain Cable, Inc.	Community Connect Grant Program

Fiscal Year	Award Amount	Funding Agency	Grantee	Program/Project
2012	$ 87,914	USDA	Professional Home Health Care Agency	Distance Learning and Telemedicine Loans and Grants
2013	$ 442,515	USDA	Crystal Broadband Networks, Inc.	Community Connect Grant Program
2013	$ 646,263	USDA	Crystal Broadband Networks, Inc.	Community Connect Grant Program
2014	$ 701,221	USDA	Crystal Broadband Networks, Inc.	Community Connect Grant Program
2014	$ 241,951	USDA	Norton Healthcare Foundation, Inc.	Distance Learning and Telemedicine Loans and Grants
2015	$ 568,000	ARC	Kentucky Labor Cabinet	ARC Grant - Teleworks Hub
2015	$ 255,046	ARC	Memorial Hospital, Inc.	ARC Telemedicine Access to Pediatric Care
2015	$ 278,254	USDA	Appalachian Regional Healthcare Inc	Distance Learning and Telemedicine Loans and Grants
2015	$ 182,566	USDA	Baptist Healthcare System	Distance Learning and Telemedicine Loans and Grants
2015	$ 112,830	USDA	Our Lady of Bellefonte Hospital, Inc.	Distance Learning and Telemedicine Loans and Grants
2016	$ 361,543	USDA	Baptist Health Foundation - Corbin	Distance Learning and Telemedicine Loans and Grants
2016	$ 231,177	USDA	Mountain Comprehensive Health Corporation	Distance Learning and Telemedicine Loans and Grants
2017	$ 499,544	USDA	Berea College	Distance Learning and Telemedicine Loans and Grants
2017	$ 449,031	USDA	Hazard Community and Technical College	Distance Learning and Telemedicine Loans and Grants
2017	$ 495,851	USDA	Northeast Kentucky Regional Health Information Organization Inc	Distance Learning and Telemedicine Loans and Grants
2018	$ 186,645	USDA	Primary Care Centers of Eastern Kentucky	Distance Learning and Telemedicine Loans and Grants

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Fiscal Year	Award Amount	Funding Agency	Grantee	Program/Project
2018	$ 2,584,621	USDA	West Kentucky Rural Telephone Cooperative	Community Connect Grant Program
2019	$ 76,000	ARC	Lewis County Fiscal Court	POWER Grant - Lewis County Broadband Strategic Plan and Feasibility Study
2019	$ 155,500	DRA	Hopkins County Fiscal Court	Delta Area Economic Development - Hopkins County Broadband
2019	$ 368,970	USDA	Addiction Recovery Care LLC	Distance Learning and Telemedicine Loans and Grants
2019	$ 2,386,350	USDA	Crystal Broadband Networks, Inc.	Community Connect Grant Program
2019	$ 128,321	USDA	Kentucky Community and Technical College System	Distance Learning and Telemedicine Loans and Grants
2019	$ 460,820	USDA	Owensboro Health Regional Hospital	Distance Learning and Telemedicine Loans and Grants
2019	$ 158,622	USDA	Pikeville Medical Center Inc	Distance Learning and Telemedicine Loans and Grants
2020	$ 2,409,351	USDA	Ballard Rural Telephone Cooperative	ReConnect 1 - 100% Grant
2020	$ 207,083	USDA	CAFCA Cares Inc	Distance Learning and Telemedicine Loans and Grants
2020	$ 785,791	USDA	Cumberland Family Medical Center, Inc.	Distance Learning and Telemedicine Loans and Grants
2020	$ 18,676,528	USDA	Duo County Telephone Cooperative	ReConnect 1 - 100% Grant
2020	$ 790,400	USDA	Grace Community Health Center	Distance Learning and Telemedicine Loans and Grants
2020	$ 468,483	USDA	Hospice of the Bluegrass, Inc.	Distance Learning and Telemedicine Loans and Grants
2020	$ 141,250	USDA	Kentucky Community and Technical College System	Distance Learning and Telemedicine Loans and Grants

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Fiscal Year	Award Amount	Funding Agency	Grantee	Program/Project
2020	$ 689,222	USDA	Kentucky Rural Health Information Technology Network, Inc.	Distance Learning and Telemedicine Loans and Grants
2020	$ 1,000,000	USDA	Mountain Comprehensive Care Center, Inc.	Distance Learning and Telemedicine Loans and Grants
2020	$ 4,908,864	USDA	Peoples Telecom, LLC	ReConnect 2 - 50/50 Grant/Loan
2020	$ 2,308,257	USDA	Thacker-Grigsby Telephone Company, Inc.	ReConnect 1 - 100% Grant
2020	$ 11,797,050	USDA	West Kentucky Rural Telephone Cooperative	ReConnect 2 - 100% Grant
2021	$ 362,981	USDA	Big Sandy Healthcare	Distance Learning and Telemedicine Loans and Grants
2021	$ 60,461	USDA	Clover Fork Outpatient Medical Project	Distance Learning and Telemedicine Loans and Grants
2021	$ 167,802	USDA	Kentucky Community and Technical College System	Distance Learning and Telemedicine Loans and Grants
2021	$ 234,775	USDA	Memorial Hospital, Inc.	Distance Learning and Telemedicine Loans and Grants
2021	$ 869,604	USDA	Saint Joseph Hospital Foundation	Distance Learning and Telemedicine Loans and Grants
2022	$ 1,937,475	ARC	Harlan County Fiscal Court	POWER Grant - Harlan County Connected
2022	$ 50,000	ARC	Shaping Our Appalachian Region, Inc.	POWER Grant - Robertson County Broadband Feasibility Study
2022	$ 50,000	ARC	Robertson County Fiscal Court	POWER Grant - Last-Mile Broadband: A Collaborative Approach
2022	$ 3,123,999	NTIA	Scott County Fiscal Court	Broadband Infrastructure Program
2022	$ 9,378,184	USDA	Mountain Rural Telephone Cooperative	ReConnect 3 - 100% Grant
2022	$ 939,588	USDA	Rockcastle County Board of Education	Distance Learning and Telemedicine Loans and Grants

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Fiscal Year	Award Amount	Funding Agency	Grantee	Program/Project
2022	$ 24,377,982	USDA	Thacker-Grigsby Telephone Company, Inc.	ReConnect 3 - 50/50 Grant/Loan
2023	$ 24,963,158	USDA	Duo County Telephone Cooperative	ReConnect 4 - 100% Grant
2023	$ 18,815,588	USDA	Peoples Rural Telephone Cooperative	Reconnect 4 - 50/50 Grant/Loan

Source: USASpending.gov, DRA Annual Reports, Appalachian Regional Commission reports, Broadbandusa.gov

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